AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1.   (currently amended): A method of processing observed data, comprising steps of:

receiving a first signal coming from a medium for a predetermined time period as a first data set;

receiving a second signal coming from the medium for the predetermined time period as a second data set;

plotting the first data set and the second data set on a two-dimensional orthogonal coordinate system; ~~and~~

determining a rotating angle of a rotating matrix so as to minimize a distribution range of the first data set and the second data set which are projected on one of a first axis and a second axis of the coordinate system; and

separating a signal component and a noise component contained in the observed data by rotating the first data set and the second data set plotted on the coordinate system ~~by a~~ with the rotating angle ~~matrix to separate a signal component and a noise component contained in the observed data~~.

2.   (original): The signal processing method as set forth in claim 1, further comprising a step of subjecting the signal component to a frequency analysis to determine a fundamental frequency of the signal component.

3.   (original): A signal processor, in which the signal processing method as set forth in claim 1 is executed.

4.   (withdrawn): A pulse photometer adapted to observe a pulse wave of a living body, comprising

a light emitter, adapted to irradiate the living body with a first light beam having a first wavelength and a second light beam having a second wavelength which is different from the first wavelength;

a converter, operable to convert the first light beam and the second light beam, which have been reflected or transmitted from the living body, into a first data set corresponding to the first wavelength and a second data set corresponding to the second wavelength; and

a processor, operable to process the first data set and the second data set with a rotating matrix to separate a signal component and a noise component contained in the pulse wave.

5.   (withdrawn): The pulse photometer as set forth in claim 4, wherein:

the processor is operable to plot the first data set and the second data set on a two-dimensional orthogonal coordinate system constituted by a first axis corresponding to the first data set and a second axis corresponding to the second data set; and

the first data set and the second data set plotted on the coordinate system are to be rotated by the rotating matrix.

6.   (withdrawn): The pulse photometer as set forth in claim 4, wherein the first data

set and the second data set are obtained for a predetermined time period consecutively.

7.   (withdrawn): The pulse photometer as set forth in claim 5, wherein a rotating

angle of the rotating matrix is determined such that a distribution range of the first data set and

the second data set which are projected on one of the first axis and the second axis is minimized.

8.   (withdrawn): A pulse photometer, comprising

a light emitter, adapted to irradiate a living body with a first light beam having a first

wavelength and a second light beam having a second wavelength which is different from the first

wavelength;

a converter, operable to convert the first light beam and the second light beam, which

have been reflected or transmitted from the living body, into a first data set corresponding to the

first wavelength and a second data set corresponding to the second wavelength; and

a processor, operable to:

plot the first data set and the second data set on a two-dimensional orthogonal

coordinate system corresponding to the first wavelength and the second wavelength;

calculate a first norm value for the first data set and a second norm value for the

second data set to obtain a norm ratio of the first norm value and the second norm value; and

obtain a concentration of at least one light-absorbing material in blood of the

living body, based on the norm ratio.

9.   (withdrawn): The pulse photometer as set forth in claim 8, wherein the concentration of the light-absorbing material is at least one of an oxygen saturation in arterial blood, a concentration of abnormal hemoglobin in arterial blood, and a concentration of injected dye in arterial blood.

10.   (withdrawn): The pulse photometer as set forth in claim 4, wherein the processor is operable to:

subject the signal component to a frequency analysis to determine at least one of a fundamental frequency of the pulse wave and a pulse rate of the living body; and

obtain a concentration of at least one light-absorbing material in blood of the living body, based on at least one of the fundamental frequency and the pulse rate.

11.   (withdrawn): The pulse photometer as set forth in claim 10, wherein the concentration of the light-absorbing material is at least one of an oxygen saturation in arterial blood, a concentration of abnormal hemoglobin in arterial blood, and a concentration of injected dye in arterial blood.

12.   (new): The signal processing method as set forth in claim 1, further comprising outputting the signal component.

13.   (new): The signal processing method as set forth in claim 1, further comprising displaying information relating to the signal component.